WHAT IS CLAIMED IS:

1. A method for coupling a head-end to end-users, comprising:

providing a mux-node;

connecting the head-end to the mux-node, the head-end exchanging analog signals and digital base band signals with the mux-node;

connecting a plurality of mini-fiber-nodes (mFNs) to the mux-node; and

connecting the end-users to the mFNs using wired connections.

2. The method of claim 1, further comprising:

receiving a downstream communication signal from the head-end;

splitting the downstream communication signal into an analog downstream signal and a digital downstream signal; and

transmitting the analog downstream signal to the mFNs.

3. The method of claim 2, further comprising:

splitting the analog downstream signal into a plurality of second analog downstream signals where each of the second analog downstream signals is destined to one or more of the mFNs; and

transmitting the second analog downstream signals to respective destined ones of the mFNs.

4. The method of claim 2, further comprising demultiplexing the digital downstream signal into one or more third downstream signals where each of the third downstream signals is destined to a subset of the end-users served by one of the mFNs.

5. The method of claim 4, wherein the demultiplexing is based on one or more of a time division multiplexing, frequency division multiplexing, wavelength division multiplexing, and spatial division multiplexing.

6. The method of claim 1, further comprising:

receiving upstream communication signals from the mFNs;

separating the upstream communication signals into a first number of analog signals;

combining the first number of the analog signals to generate a second number of analog signals where the first number is greater than the second number; and

sending the second number of analog signals to the head-end.

7. The method of claim 6, wherein the combining includes one of frequency stacking or adding the analog signals.

8. The method of claim 6, further comprising:

separating digital signals from the upstream communication signals; and

sending the digital signals to a mux/demux/router.

9. The method of claim 8, further comprising:

separating the digital signals into first signals destined for end-users serviced by the mux-node and second signals not destined for the end-users serviced by the mux-node;

extracting destinations of the first signals; and

transmitting the first signals to the mFNs corresponding to the destinations.

10. The method of claim 1, further comprising:

receiving upstream digital communication signals from the mFNs;

multiplexing the signals; and

sending the multiplexed second signals to the head-end.

11. The method of claim 10, wherein the multiplexing is based on time division multiplexing scheme.

12. A method for coupling a head-end to end-users, comprising:

providing a primary hub;

providing a secondary hub coupled to the primary hub;

connecting a mux-node to the secondary hub using a first number of one or more first optical fibers; and

connecting a plurality of mini-fiber nodes (mFNs) to the mux-node using a second number of second optical fibers, the second number being greater than the first number.

13. The method of claim 12, further comprising:

converting in the mux-node first optical signals received from the mFNs to electrical signals;

processing the electrical signals;

converting the processed electrical signals to second optical signals; and

transmitting the second optical signals to the secondary hub.

14. The method of claim 13, wherein a first wavelength tolerance of optical signals transmitted over the first fibers is more stringent than a second tolerance of optical wavelength of optical signals transmitted over the second optical fibers.

15. A method for coupling a head-end to end-users, comprising:

providing a head-end;

connecting a mux-node to the head-end using first optical fibers spanning a first distance; and

connecting mini-fiber nodes (mFNs) to the mux-node using second optical fibers spanning second distances, the first distance being greater than each of the second distances.

16. The method of claim 15, wherein each of the second distances is less than one kilometer.

17. The method for coupling end-users to a head-end, comprising:

converting in a mux-node first optical signals received from a first lightwave interface to electrical signals;

processing the electrical signals;

converting the processed electrical signals to second optical signals; and

transmitting via a second lightwave interface the second optical signals to the head-end.

18. The method of claim 17, wherein a first wavelength tolerance of the first optical signals received from the first lightwave interface is less stringent than a second tolerance of optical wavelength of the second optical signals transmitted via the second lightwave interface to the head-end.

19. A communication system having a head-end and end-users, comprising:

a mux-node connected to the head-end, the head-end exchanging analog signals and digital base band signals with the mux-node; and

a plurality of mini-fiber-nodes (mFNs) connected to the mux-node, the end-users connected to the mFNs using wired connections.

20. The system of claim 19, wherein the mux-node receives a downstream communication signal from the head-end, splits the downstream communication signal into an analog downstream signal and a digital downstream signal and transmits the analog downstream signal to the mFNs.

21. The system of claim 20, wherein the mux-node splits the analog downstream signal into a plurality of second analog downstream signals where each of the second analog downstream signals is destined to one or more of the mFNs, and transmits the second analog downstream signals to respective destined ones of the mFNs.

22. The system of claim 20, wherein the mux-node demultiplexes the digital downstream signal into one or more third downstream signals where each of the third downstream signals is destined to a subset of the end-users served by one of the mFNs.

23. The system of claim 22, wherein the mux-node demultiplexes based on a time division multiplexing, frequency division multiplexing, wavelength division multiplexing, and spatial division multiplexing.

24. The system of claim 19, wherein the mux-node receives upstream communication signals from the mFNs, separates the upstream communication signals into a first number of analog signals, combines the first number of the analog signals to generate a second number of analog signals where the first number is greater than the second number and sends the second number of analog signals to the head-end.

25. The system of claim 24, wherein the mux-node combines based on one of frequency stacking or adding the analog signals.

26. The system of claim 24, wherein the mux-node separates digital signals from the upstream communication signals and sends the digital signals to a mux/demux/router.

27. The system of claim 26, wherein the mux-node separates the digital signals into first signals destined for end-users serviced by the mux-node and second signals not destined for the end-users serviced by the mux-node, extracts destinations of the first signals, and transmits the first signals to the mFNs corresponding to the destinations.

28. The system of claim 19, wherein mux-node receives digital communication signals from the mFNs, multiplexes the signals, and sends the multiplexed signals to the head-end.

29. The system of claim 28, wherein the multiplexing is based on time division multiplexing scheme.

30. A communication system that includes a head-end and end-users, comprising:

a primary hub;

a secondary hub coupled to the primary hub; and

a mux-node connected to the secondary hub using a first number of one or more first optical fibers; and

a plurality of mini-fiber nodes (mFNs) connected to the mux-node using a second number of second optical fibers, the second number being greater than the first number.

31. The system of claim 30, wherein the mux-node converts optical signals received from the mFNs to electrical signals, processes the electrical signals, converts the processed electrical signals to optical signals, and transmits the optical signals to the secondary hub.

32. The system of claim 31, wherein a first wavelength tolerance of optical signals transmitted over the first optical fibers is more stringent than a second tolerance of optical wavelength of optical signals transmitted over the second optical fibers.

33. A communication system that includes a head-end and end-users, comprising:

a head-end;

a mux-node connected to the head-end using first optical fibers spanning a first distance; and

mini-fiber nodes (mFNs) connected to the mux-node using second optical fibers spanning second distances, the first distance being greater than each of the second distances.

34. The system of claim 33, wherein each of the second distances is less than one kilometer.

35. A mux-node that couples end-users to a head-end, comprising:

a first lightwave interface; and

a second lightwave interface, the mux-node converts in a mux-node first optical signals received from a first lightwave interface to electrical signals, processes the electrical signals, converts the processed electrical signals to second optical signals, and transmits via a second lightwave interface the second optical signals to the head-end.

36. The mux-node of claim 35, wherein a first wavelength tolerance of the first optical signals received from the first lightwave interface is less stringent than a second tolerance of optical wavelength of the second optical signals transmitted via the second lightwave interface to the head-end.